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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	G40-C088
Plant ID No.:	777-00143
Applicant:	Faifax Materials, Inc.
Facility Name:	Ours Quarry / Scherr Quarry / Short Gap Quarry
Location:	Arthur, Grant County / Scherr, Grant County / Keyser, Mineral County
SIC Code:	1422 (Crushed and Broken Limestone)
NAICS Code:	212312
Application Type:	Construction
Received Date:	January 30, 2017
Engineer Assigned:	Thornton E. Martin Jr.
Fee Amount:	$1,500
Date Received:	January 31, 2017
Complete Date:	May 30, 2017
Applicant Ad Date:	April 26, 2017; April 25, 2017; April 21, 2017
Newspaper:	*The Moorefield Examiner* ; *Grant County Press* ; *News Tribune*
UTM's:	Site 1 - Easting: 668.170 km Northing: 4329.107 km Zone: 17
	Site 2 - Easting: 658.231 km Northing: 4338.304 km Zone: 17
	Site 3 - Easting: 685.628 km Northing: 4378.745 km Zone: 17
Description:	Applicant proposes to construct and operate a portable Metso Lokotrack ST2.8 Scalping Screen. It will be transferred periodically between three of the Applicants' sites depending on material availability and need.

PROCESS DESCRIPTION (Taken from the Application)

The Metso Lokotrack ST2.8 Portable Scalping Screen will be used to process +10" aggregate material into a maximum of three (3) different sized products depending on screen configuration. The screen is a stand-alone process which can be moved between sites depending on the amount/type of products required. There is a water truck at each site which will be used to ensure that the moisture content of the material is sufficient to control particulate emissions. The process is outlined below:

1. Plus 10" aggregate will be fed via an excavator or front end loader into a 5.9 cubic yard dump hopper (1). Material then drops from the hopper into the feeder (2).

2. The feeder discharges to the 16' X 5' Double Deck screen at a maximum rate of 400 tons per hour (TPH) (3).

3. The 16' X 5' double deck screen will deposit screened material onto one of three conveyors depending on size. The amount of material going to each conveyor will depend on the type of material being processed and the current screen configuration. The maximum to all 3 conveyors will be 400 TPH (4,5 & 6).

4. After the material is discharged from the screen, conveyors #1 (7), #2 (8) and #3 (9) transport the materials to the associated stockpiles.

The Metso Lokotracvk ST2.8 Portable Scalping Screen is powered by a 2015 Caterpillar (Perkins Engine Co. Ltd.) C4.4, 73 kW diesel engine (E-1). Emission controls for the engine include Electronic Direct Injection, Turbocharger and Electronic Control Module. The engine and control device will be operated and maintained in accordance with the manufacturer's emission-related written instructions. EPA Certificate Number: FPKXL04.4NH1-006.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration application G40-C088 for all three sites:

Table 1: Equipment Summary

Equipment ID No.	Date of Construction, Reconstruction or Modification	Description	Maximum Capacity		Control Equipment [1]
			TPH	TPY	
OT-1	2017	5.9 Cubic Yard Dump Hopper	400	1,536,000	UD-PW
OT-2	2017	Feeder	400	1,536,000	UD-PW
S-1	2017	Double Deck Scalping Screen	400	1,536,000	CS-PW
BC-1	2017	Belt Conveyor receives material from screen and transfers to open stockpile OS-1	133.3	512,000	TC-WS
OS-1	2017	100 Ton Open Stockpile of Sized Material	----	512,000	SW-WS
BC-2	2017	Belt Conveyor receives material from screen and transfers to open stockpile OS-2	133.3	512,000	TC-WS
OS-2	2017	100 Ton Open Stockpile of Sized Material	----	512,000	SW-WS
BC-3	2017	Belt Conveyor receives material from screen and transfers to open stockpile OS-3	133.3	512,000	TC-WS
OS-3	2017	100 Ton Open Stockpile of Sized Material	----	512,000	SW-WS
E-1	2015	Perkins C4.4 Diesel Engine, Ser.# 44620411	97.9 bhp/1,800 rpm		DDI, TC, ECM

[1] UD-PW - (Unloading)Partial Enclosure w/water spray; CS-PW - (Crushing and Screening)Partial Enclosure w/water spray; TC-PW - (Transfer and Conveying)Partial Enclosure w/water spray; SW-WS - (Storage) w/water spray; DDI - Electronic Direct Injection; TC- Turbocharged; ECM - Electronic Control Module

DESCRIPTION OF FUGITIVE EMISSIONS (Taken from the Application)

The sources of fugitive emissions are product stockpiles, haul roads and vehicle traffic. The fugitive emissions from road surfaces will be controlled by a water truck. The truck is fitted with pump and spray nozzles which can be used to saturate stockpiles.

The application rate can be varied by adjusting the nozzles; the required rate depends on weather conditions. Enough water is applied to control the dust but, it is important not to apply excess water that could cause mud to be tracked.

The water conduits and spray nozzles will be drained each evening when there is a need due to freezing weather. Road surfaces are made of crushed stone. Another method to control dust is to limit the speed of traffic.

SITE INSPECTION

Fairfax Materials, Inc. is proposing to setup and operate their portable screening unit within existing quarry boundaries at the proposed sites. All three sites have been inspected within the last two years of receipt of this Application and all received a status code of 30 - In-Compliance. Therefore, a site inspection was not deemed necessary at this time in conjunction with this permitting action.

Directions:

Site 1 - Ours Quarry - On WV 5/7 (Morgantown Road), three miles East of Aurthur, WV.

Site 2 - Scherr Quarry - Southeast on New Creek School Road, turn right on WV-972. South 0.4 miles, continue on US-50 West for 2.6 miles, make a slight left on WV-93 West, go 12.1 miles, turn left onto Old Scherr Road, 0.7 miles.

Site 3 - Short Gap Quarry - Take WV-46, 0.2 miles to CR-8, Take Waxler Road for 11.6 miles, quarry entrance on the right.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haul roads are based on AP-42 "Compilation of Air Pollution Emission Factors." Control efficiencies were applied based on the Reference Document for General Permit G40-C. The estimated emission calculations were performed by the applicant using the General Permit G40-C Excel emission calculation spreadsheet.

The engine emissions received from the Applicant are based on the EPA's Certificate of Conformity.

The proposed construction and operation at all sites combined (3,840 hours/year)will result

in the estimated potential to discharge controlled emissions of 15.32 TPY of PM (Particulate Matter), 4.93 TPY of PM_{10} (particulate matter less than 10 microns), 0.65 TPY of CO (Carbon Monoxide) and 1.21 TPY of NOx (Nitrogen Oxides). Refer to the following tables for a complete summary of the proposed facility's emissions:

Table 2: Emissions Summary *(less Engine)*

Emissions Summary - Fairfax Materials, Inc. ***Monongalia County, Berkeley County***	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.00	0.01	0.00	0.00
Unpaved Haulroad Emissions	5.37	10.30	1.58	3.04
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	*5.37*	*10.31*	*1.58*	*3.04*
Point Source Emissions				
Equipment Emissions	2.00	3.84	0.70	1.34
Transfer Point Emissions	0.61	1.17	0.29	0.56
Point Source Emissions Total	*2.61*	*5.01*	*0.99*	*1.89*
FACILITY EMISSIONS TOTAL	**7.98**	**15.32**	**2.57**	**4.93**

Table 3: Engine Emissions (Tier 4i)

Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
E-1	Carbon Monoxide	0.34	0.65
	Nitrogen Oxides	0.63	1.21
	Volatile Organic Compounds	N/A	N/A
	Sulfur Dioxide	N/A	N/A
	PM_{10}	N/A	N/A
	Formaldehyde	N/A	N/A

REGULATORY APPLICABILITY

PSD has no applicability to the proposed facility. The proposed construction and operation of a portable screening plant is subject to the following state and federal rules:

45CSR7 *To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations*

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage

structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G40-C088 are in operation.

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of 800,000 lb/hour, the maximum allowable emission rate is 50 lb/hour of particulate matter. The maximum emission rate is 2.61 lb/hour of particulate matter according to calculated emissions in fact sheet G40-C088.

45CSR13 *Permits for Construction, Modification, Construction and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed construction is subject to the requirements of 45CSR13 because it has the potential to discharge a regulated air pollutant (Particulate Matter) in the amount greater than 6 pounds per hour (pph) and 10 tons per year (TPY). The applicant has applied for a G40-C registration to construct, submitted the proper $1,500 application fee and published a Class I legal advertisement in *The Moorefield Examiner* ; *Grant County Press* and *News Tribune* on April 26, 2017; April 25, 2017 and April 21, 2017, respectively.

45CSR16 *Standards of Performance for New Stationary Sources*

45CSR30 *Requirements for Operating Permits*

In accordance with 45CSR30 Major Source Determination, the portable screening facility will be a non-major source which is subject to NSPS Subpart IIII. The facility's potential to emit will be 1.89 TPY of a regulated air pollutant (PM_{10}), not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY. Therefore, the facility will be subject to 45CSR30 and classified as a Title V deferred non-major source.

45CFR60 *Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

Fairfax Materials, Inc. is subject to this subpart because the engine was manufactured after April 1, 2006. The engine emissions for E-1 are EPA Tier 4i Certified.

40CFR63 *Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Fairfax Materials, Inc. is subject to 40CFR63 Subpart ZZZZ, because E-1 is considered a new area source of HAP's since it will be constructed on or after June 12, 2006, however, the only requirements that apply are those required under 40CFR60 Subpart IIII.

The proposed construction of Fairfax Materials, Inc.'s portable screening facility is not subject to the following state and federal rules:

45CSR14 *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*

The facility will have the potential to emit 5.01 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

40 CFR 60 *Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants*

This facility is not subject to 40 CFR 60, Subpart OOO as the portable plant does not incorporate a crusher or ginding mill. [40CFR§60.670 (a)(2)]

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Various VOC/non-criteria regulated pollutants are emitted from the incomplete combustion of diesel fuel. These emissions, however, are generally small and do not adversely impact the quality of the surrounding ambient air.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the limit of the proposed construction. This facility will be located in Monongalia County, WV, which is currently designated as attainment for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter). Berkeley County is considered attainment for $PM_{2.5}$ with an approved Maintenance Plan (1997).

GENERAL PERMIT ELIGIBILITY

The proposed construction of this facility meets the applicability criteria (Section 2.3), siting criteria (Section 3.1) and limitations and standards (Section 5.1) as specified in General Permit G40-C.

MONITORING OF OPERATIONS

G40-C registrants will be required to perform the following monitoring and recordkeeping:

1. Monitor and record daily and monthly records of the amount of nonmetallic minerals

processed.

2. Monitor and record calendar monthly and calendar annual quantity of fuel consumed and hours of operation for all engines and combustion sources.
3. Monitor and record calendar annual quantity of organic liquid throughput in all registered storage tanks.
4. Conduct visual observations of all points listed in the registration that are subject to opacity limits.
5. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.
6. Perform are applicable required monitoring, recordkeeping, reporting and testing that is required under 40CFR60 Subparts OOO, IIII, and JJJJ.
7. These records shall be maintained on-site for a minimum of five (5) years from the date of record creation and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this construction application indicates that compliance with all applicable regulations should be achieved when all proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be negligible. No public comments were received. Therefore, the granting of a G40-C registration to Fairfax Materials, Inc. for the construction and operation of a portable screening facility located at one of two locations, in Monongalia County or Berkeley County, WV is hereby recommended.

Thornton E. Martin Jr.,
Permit Engineer

May 30, 2017
Date